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### **Intellectual mobility of the flight crew members**

*The article deals with the problem of providing intellectual mobility of the flight crew members. It explains the essence of training and retraining these specialists of the quality. The definition of intellectual mobility as an integrated characteristic (quality) of a personality is given and its structure (motivational, cognitive, operational-and-technological, social and personal components) is also described here.*

Taking into consideration a flight crew members's career, we should notice, that the world of aviation changes in so many aspects that it also affects his or her day-to-day work. Present system of air transport is undergoing fundamental transformation, flight crew members's operations and responsibilities also change as new technologies and new aircraft are being introduced, causing impact on the profession. Any time the flight crew member needs to stay proficient and fluent combining his thorough education with a constant development throughout the entire career of a professional flight crew member. This enormous challenge requires career long studying, training and even passing exams.

No two persons either students or trainees are the same. Initial experience and skill levels of flight crew members also may be different, as well as their individual ability to learn certain concepts and skills at different rates. Doubtlessly, there should exist effective training programs to provide the required flexibility to ensure each flight crew member's skill set meeting and exceeding the required proficiency and fluency to safely operate in the complex airspace environment, where the human factor issue is one of the most major problems. Human factor, essentially, combines mental, physiological, biomechanical, anthropometrical and other human features, determined by the criteria of human to machine compatibility [1, 2], representing the dependence of human activity on constructive and technological parameters of the machinery applied and involves all variables that influence the reliability and efficiency of pilot to machine integration [3].

Since the demand for flight crew members does incorporate not only the basic flying skills, additional skills and competencies certainly need to be taken care of. Flight crew member's technical knowledge and skills are not sufficient to be relied solely on to safely operate professionally. For them it is important to train both technical and nontechnical skills. All positive and negative results of incidents and accidents in the aviation industry are directly traced to critical non-technical skills. Non-technical skills are represented in all pilot training courses, either initial

training or recurrent training or requalification or initial operating experience. They are difficult to quantify concepts like motivation, social interaction, leadership and followership, common sense and logic, and communication skills.

One of the most important issues within the problem of professional reliability of the flight crew members is the ability to communicate skillfully in professional situations, to acquire interpersonal contacts, especially, to perform communication within the flight crew has become of crucial significance. It is understandable, that English is the aviation language, but as this is not the mother tongue for all of the aviation professionals there are two caveats that need to be taken into consideration. Firstly, flight crew member should all communicate in English fluently enough. This does not only mean being able to speak and understand standard phraseology within their profession. Secondly, the way people express themselves is different, which is caused by their own cultural background, even if all of them speak English. Cultural differences need to be taken into account to provide for a positive and safe working environment in the cockpit, in the cabin, on board the aircraft and within a whole company.

In this connection, the formation of intellectual mobility of flight crew members as an integrated characteristic (quality) of a personality is of great importance. Here one should mention that nowadays there is the transfer of understanding the concept of intellectual mobility: from intellectual migration and the exchange of thoughts to understanding this type of mobility as a personality quality which becomes the basis for general mobility of a personality. In modern scientific and educational texts there are a few terms for this or similar concept, namely “intellectual mobility”, “thought mobility”, “mobility of minds”, “intellectual flexibility”. All of them are related to the development of creative capabilities, innovative thinking and become the aim of training competitive specialists, geographical mobility remaining only the means.

We define intellectual mobility of the flight crew members as an integrated characteristic (quality) of a personality that ensures the readiness of a specialist to find and effectively apply required information, to generate new ideas and perceive innovations with tolerance, to act promptly and choose the best methods of solving both reproductive and creative tasks as well as change quickly the types of intellectual activity without reducing its efficiency.

The main invariants of readiness are considered to be personality and procedural components in their unity. On the one hand, readiness is related to personality (emotions and intelligence, will, motivation, which includes interest in activity, responsibility, confidence in success, emotional control etc.), on the other, it comprises professional’s tools (knowledge, skills, strategies etc.). Respectively, we distinguish the following components in the structure of intellectual mobility: motivational, cognitive, operational-and-technological, as well as social and personal.

Motivational component includes such features, as awareness of the significance of the personal intellectual development and availability of great interest in intellectual activity.

Cognitive component is comprised of: knowledge in intellectual mobility and personal individual psychological characteristics, the level of qualities of thought (flexibility, quickness, independence and profundity of thought), thought procedures, and manifestation of creativity in intellectual activity.

Operational-and-technological component includes instrumental competencies (ability to native and foreign languages communication, computing skills, information control skills) and the ability to use different techniques and strategies to perform intellectual tasks.

Social and personal component is related to the manifestation of qualities needed for proper adaptation (emotional endurance, business-like character, responsibility, and total activity), communicativeness and interactive skills, tolerance and persistence in goal achievement.

In our opinion, the pedagogical conditions of the formation of intellectual mobility of a future professional should comprise: the change in the function of a teacher / trainer when he / she becomes the moderator of the intellectual activities of students / trainees, but not only a knowledge transmitter; students' / trainees' motivation to the intellectual activities due to teacher's / trainer's consideration of their individual psychological features; integration of the vocational training and foreign language teaching, vocational orientation of foreign language learning with the use of distance courses, intellectual games and brainstorming tasks.

## **Conclusions**

To provide professional reliability of the flight crew members it is essential to train specialists of a new quality – intellectual mobility. Firstly, it is an integrated characteristic (quality) of a personality that ensures the readiness of a specialist to find and effectively apply required information, to generate new ideas and perceive innovations with tolerance, to act promptly and choose the best methods of solving both reproductive and creative tasks as well as change quickly the types of intellectual activity without reducing its efficiency; secondly, it includes motivational, cognitive, operational-and-technological, as well as social and personal components.

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